CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER - 01-051

One double-sided

WATER REUSE REQUIREMENTS FOR:

CARNEROS INN AND L. PEREZ & SONS VINEYARD
CARNEROS REGION, NAPA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds that:

1. Carneros Partners, LLC, owner and operator of Carneros Inn submitted a Report of Waste Discharge, dated December 1998, for the construction and operation of a new tertiary wastewater treatment and disposal system to serve a new combined residential housing and recreational vehicle resort facility. The new facilities are being constructed on a 16.4 acre parcel (Napa County APN 47-100-34) located on State Highway 12/121 (aka Old Sonoma Highway) southwest of the City of Napa, and west of Highway 29, in an unincorporated area of Napa County. (Figure 1, Attachment 1).

2. L. Perez & Sons (Perez) are the owners and operators of a 24 acre wine-grape vineyard on property adjacent to and northeast of the Carneros Inn property. The property consists of sloping terrain planted with well-established wine grape vineyards. The property includes an irrigation supply well located 215 feet northeast of the Carneros Inn property boundary. L. Perez & Sons will use recycled water from the Carneros Inn tertiary water storage pond system for drip irrigation of vineyards. The vineyard area is fenced to preclude public access.

3. The proposed Carneros Inn project is located immediately adjacent to the low ridge that separates the Carneros Creek drainage from the lower Napa River. Surface runoff from the developed portions of the project flows into a series of unnamed channels that run south and east from the site. These channels are roughly 3.75 miles in length and eventually join the Napa River approximately one river mile upstream of Cuttings Wharf.

SITE HISTORY

4. The Carneros Inn property was previously owned and operated by Wine Valley Mobile Estates and Los Carneros R.V. Resort. In the late 1990s, the facility was purchased by the current owner, Carneros Partners, LLC. The old facility consisted of residential and restaurant facilities and an onsite wastewater system consisting of septic tanks and two wastewater evaporation ponds. In addition to disposal by direct evaporation, treated wastewater was intermittently used for drip irrigation of an vineyard, owned and operated by the adjacent property owner, L. Perez & Sons. The old facility was regulated by Regional Board Order No. 92-051 and amendment Order No. 99-085.

NEW CARNEROS INN FACILITIES

5. The new Carneros Inn facilities will involve a total redesign and upgrade of the site facilities to an extensively landscaped resort setting. Changes include: a change in the layout of the old temporary RV park trailers to "Park Trailer" Cottages and 24 "factory-built resort residences"; a public-serving roadside coffee house; redesign and relocation of the main restaurant (to serve resort guests); redesign of administration recreational facilities; elimination of two existing wastewater ponds;

ponds; construction of a new tertiary water holding pond; and construction of a new tertiary wastewater treatment system (Site Map, Figure 2, Attachment 2).

WASTEWATER TREAMENT FACILITY

6. The new state-of-the-art wastewater treatment system will produce disinfected tertiary recycled water suitable for "unrestricted' irrigation reuse in accordance with current state California Water Recycling Criteria (Title 22 regulations and criteria for wastewater reclamation). Recycled water produced by the tertiary treatment facility will be used for on-site irrigation of approximately 8 acres of landscape features (utilizing spray, drip, and subsurface applications) and decorative water features (fountains, etc). Recycled water will also be used as a source of supply for fire hydrants and fire sprinkler systems at the common facilities. Tertiary water from the Carneros storage pond will be transmitted to Perez & Sons Vineyard for drip irrigation of 24 acres of vineyard. All wastewater generated will be domestic, with a small amount of commercial wastewater from the small laundry facility at Carneros Inn.

The new tertiary treatment system will consist of:

* Self-cleaning fine screen at the head works
* Microfiltration membrane bio-reactor
* An emergency alarm system connected to the administration office
* Chlorine contact tank (sodium hypochlorite)
* Effluent pump station
* Standby auxiliary power to operate the recycled water system during power interruptions
* Equalization/emergency storage facility
* Redundancy requirements as required in Title 22

Wastewater will be collected in a new sewer system from throughout the Carneros Inn area and will flow by gravity to an equalization/emergency storage facility at the tertiary treatment package plant. After screening the influent will flow to the microfiltration membrane bioreactor (MBR) (see flow schematic in Figure 3, Attachment 3). The MBR will be a Zenon system with a configuration that has been approved by the California Department of Health Services (DHS) for production of tertiary recycled water. The MBR process train will consist of an aeration basin, an anoxic basin, recirculation/sludge wasting pump, immersed microfiltration membranes, and permeate pumps. Dissolved BOD will be converted into filterable solid material in the aeration basin by an aerobic suspended growth process. . In addition, nitrification will occur in the aeration basin. Nitrified effluent will be recirculated to the anoxic basin and blended with raw wastewater for denitrification. Several "cassettes" with microfiltration membranes will be immersed at one end of the aeration basin. The backwashing of the bio-filter membranes will be controlled by an automated programmable controller. Sodium hypochlorite is also injected into the backpulse flow to remove biological growth in the membrane filters. Waste activated sludge will be periodically pumped from the bottom of the aeration basin into a tanker truck and transferred to a wastewater treatment plant with solids handling facilities.

Permeate will be pumped to the seasonal storage pond in a dedicated pipeline. Sodium hypochlorite will be injected at the beginning of the pipeline and mixed with an inline mixer. All or part of the required contact time will be achieved in the pipeline. As an additional measure of protection, re-chlorination facilities will be provided adjacent to the seasonal storage pond to inject additional chlorine prior to distribution of recycled water.

The equalization/emergency storage facility will provide redundant storage capacity in the event that recycled water is produced that doesn't meet the requirements of the Water Recycling Criteria for disinfected tertiary recycled water. If this occurs, the off specification recycled water will be directed to the equalization/emergency storage facility until it can be pumped back to the headworks of the plant to be retreated.

RECYCLED WATER STORAGE POND

7. A seasonal storage pond with a capacity of 8.7 acre-feet will be constructed to hold the tertiary treated water prior to distribution to on-site landscape irrigation and to the adjacent L. Perez & Sons vineyard for drip irrigation. The pond will a concrete or equivalent liner to prevent infiltration into the groundwater. There will be sufficient wastewater storage capacity to allow for total containment of wastewater during non-irrigation periods and sufficient pond levee free-board will be maintained to allow for capturing and containing normal rainfall events.

BASIS FOR WASTEWATER TREATMENT DESIGN

8. The proposed peak wastewater flows for the Carneros Inn facilities are as follows:

Building	Units	Unit Flow (gpd)	Peak Flow (gpd)
RV Units	96	60	5,760
Mobile Homes	24	270	6,480
Reception/Admin/Rec. Bldg.	1	3,500	3,500
Restaurant (seats)	49	36	1,764
Employees	82	11	902
Contingency (8%)			1,594
TOTAL			**20,000**

9. The estimated wastewater quality characteristics for the Carneros Inn wastewater/reclaimed water system is shown in Table 1.

Table 1. Design Wastewater characteristics for Carneros Inn treatment/reuse system

Parameter	Influent	Effluent
BOD_5	400 mg/l	<10 mg/l
TSS	250 mg/l	<10 mg/l
Total nitrogen	40 mg/l	<10 mg/l
Turbidity		0.2 NTU
Fecal Coliform		< 2.2 /100ml

10. Water Conservation

State of the art water conservation technology will be used for bathing and washing, flushing toilets, dishwashing (efficient institutional dishwasher), and irrigation systems. The kitchen will not have a garbage grinder. A grease trap will collect grease from the restaurant kitchens prior to flow into the wastewater treatment system. All organic food waste will be collected and composted and/or disposed of off-site.

WATER BALANCE FOR THE WATER STORAGE AND IRRIGATION DEMAND

11. Wastewater Reuse Through Landscape and Vineyard Irrigation:

    A monthly water balance was prepared by HydroScience Engineers to estimate storage requirements and irrigation demands. The data is presented in Table 2 (Attachment 4). Applied irrigation demands were estimated by subtracting monthly precipitation from monthly evapotranspiration, assuming 80 percent efficiency for rainfall irrigation and 90 percent efficiency for applied irrigation. Mean monthly rainfall data were obtained from a recording station at the Napa Fire Department and adjusted to estimate a wet season with a 10-year occurrence interval, then distributed on a monthly basis using a standard distribution formula. The estimated annual rainfall for a 10-year wet season occurrence interval is 34.26 inches. The total estimated irrigation demand at Carneros Inn is 16.7 acre-feet per year (AFY). The total irrigation demand at the Perez and Sons Vineyard is 42.4 AFY.

12. The general recycled water use areas are shown in Table 3 below:

Table 3: Existing and Potential Water Uses

Customer	Use Area (acres)	Annual Demand (AFY)	Type of Reuse	Type of Irrigation	Land Use[1]	Level of Access[2]
Landscaping at At Carneros Inn	5.9	16.7	irrigation	spray, drip, subsurface	recreational, ornamental	unrestricted
Perez & Sons	24	42.4	irrigation	drip, spray	agricultural	restricted
Total		**59.1**				

[1] "Recreational" land use includes lawns that may be used for recreational purposes. "Ornamental" landscaping includes other landscaping not intended for recreational uses (shrubbery, groundcover, fountains, etc.).

[2] "Unrestricted" access includes areas to which public has access. "Restricted" access includes areas where public generally does not have access (Perez and Sons Vineyard).

GROUNDWATER ISSUES

13. Nitrate loading from on-site wastewater disposal systems can potentially degrade ground water supplies. The groundwater at the Carneros Inn site is not currently used as a drinking water supply. The tertiary treatment unit is expected to produce less than 10 mg/l of nitrate-N in the effluent. Near complete nitrification and significant denitrification is expected. Nitrification is achieved in the aerobic reactor, which is highly aerated. Denitrification occurs in the anoxic reactor, by recirculating the nitrified effluent from the aerobic reactor and blending it with the influent wastewater. The proposed storage pond is being lined to prevent wastewater from infiltrating to groundwater and the subsurface irrigation system is designed to maximize nitrogen uptake and minimize nitrates from reaching groundwater. The combination of these factors is expected to significantly reduce any risk of nitrate contamination of the underlying groundwaters.

14. The Carneros Inn is hereinafter called the Producer of the recycled water (although Carneros Inn will also be user of recycled water on site). The Perez and sons Vineyard is hereinafter called the User. Both the Producer and the User are hereinafter collectively called the Discharger.

15. The Carneros Inn, as the Producer of the recycled water, will operate and maintain the major treatment, onsite distribution and recycled water irrigation facilities. Perez and Sons Vineyard, the User, will be responsible for the operation and maintenance of its recycled water irrigation facilities.

BASIN PLAN AND BENEFICIAL USES

16. The Board adopted a revised Water Quality Control Plan (Basin Plan) for the San Francisco Bay Region on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20 and November 13, 1995, respectively. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan defines beneficial uses and water quality objectives for surface waters and groundwaters in the region, as well as effluent limitations and discharge prohibitions intended to protect beneficial uses. This Order implements the plans, policies and provisions of the Board's Basin Plan.

17. The Basin Plan defines beneficial uses and water quality objectives for waters of the State within the San Francisco Bay Region, including surface and ground waters.

18. The beneficial uses identified in the Basin Plan for Napa River and tributaries, in the project vicinity include

    a. Navigation
    b. Water Contact Recreation
    c. Non-contact Water Recreation
    d. Warm and Cold Water Fresh Water Habitats
    e. Wildlife habitat
    f. Preservation of Rare & Endangered Species
    g. Fish Migration and Spawning

19. The beneficial uses identified in the Basin Plan for ground water in the Napa Valley area include:

    a. Municipal Water Supply
    b. Industrial Process Water Supply
    c. Industrial Service Supply
    d. Agricultural Supply

REGULATORY ISSUES AND APPLICATIONS

20. On October 20, 2000, the Napa County Conservation, Development, and Planning Department gave final approval to the use permit modifications with minor conditions, unrelated to the wastewater treatment and disposal system.

21. The Napa County Board of Supervisors approved a Negative Declaration for the project on February 19, 1999, without mitigations, in accordance with the California Environmental Quality Act (CEQA; Public Resources Code section 21000 et seq.). The Negative Declaration finds that the proposed project will not have a significant effect on the environment.

22. Section 13523 of the California Water Code provides that a Regional Board, after consultation with and receipt of recommendations from the State Department of Health Services (DHS), shall prescribe water reclamation requirements for water that is used as recycled water. These water reuse requirements are in conformance with the recently adopted statewide water reclamation criteria. The Carneros *Inn Recycled Water Project,*

Engineering Report on the Production, Distribution and Use of Recycled Water, prepared by HydroScience Engineers, Inc., December 2000, was approved by DHS without conditions on December 12, 2000.

23. The proposed uses of recycled water will maintain and enhance natural resources, and thus this Order is categorically exempt from the provisions of Chapter 3 (CEQA) Division 6, Title 14 of the California Administration Code pursuant to Section 15301 of that Chapter.

24. The project as regulated by this Order will not have a significant adverse impact on water quality.

25. The Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with the opportunity for a public hearing and opportunity to submit their written views and recommendations.

26. The Board, in a properly noticed public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Prohibitions

1. The treatment, storage, distribution, or reuse of waste shall not create a nuisance or pollution as defined in the California Water Code.

2. The discharge of waste other than domestic/limited commercial laundry wastes into the waste treatment and disposal system is prohibited.

3. Discharges of any wastes including overflow, bypass, over-spray and runoff from treatment, transport, or disposal systems to adjacent drainage ways or adjacent properties not controlled by this permit is prohibited.

4. There shall be no bypass or overflow of untreated or partially treated wastewater to waters of the State from the Producer's collection, treatment, storage or disposal facilities.

5. The discharge of wastewater or use of recycled water shall not cause the degradation of groundwater used for domestic purposes or cause any change in quality parameter that would make the groundwater unsuitable for irrigation use.

6. Recycled water shall not be used as a domestic or animal water supply. There shall be no cross-connection between potable water supply and piping containing reclaimed water. Supplementing recycled water with water used for domestic supply shall not be allowed except through an air-gap separation. Double check valve assemblies will be installed for backflow prevention on all potable water pipes serving buildings in which recycled water will be used for fire protection. These assemblies shall be tested at least once per year.

7. Discharge of toxic substances into wastewater treatment or the recycled water storage pond is prohibited. .

8. Recycled water shall not be applied to irrigation sites when soils are saturated, when conditions are such that runoff or excessive ponding is likely to occur, during rainfall, or when rainfall is expected to occur within 24 hours.

9. The peak daily flow to the wastewater treatment system shall not exceed 20,000 gpd.

B. Recycled Water Quality Specifications

1. The Producer shall assure that the recycled water discharged to the storage pond(s) is at all times an adequately oxidized, disinfected tertiary treated wastewater that meets the following quality limits.

   a. The effluent discharged to the storage pond shall not exceed the following limits:

Constituent	Unit	Daily Maximum
1) BOD_5	mg/l	10
2) TSS	mg/l	10
3) Oil & Grease	mg/l	10
4) Nitrate Nitrogen as N	mg/l	10

   b. pH: The pH of the discharge shall not exceed 9.0 nor be less than 6.5

   c. Total Coliform Bacteria:

      The treated wastewater shall meet the following limits of bacteriological quality:

      The moving median value for the most Probable Number (MPN) of total coliform bacteria in any five consecutive samples shall not exceed 2.2 MPN/100 ml; and any single sample shall not exceed 23 MPN/100 ml when verified by a repeat sample taken within 48 hours.

2. The Producer shall discontinue the pumping of recycled water to the storage pond during any period when there is reason to believe that the limits specified in B.1. above are not being met. The pumping of recycled water shall not be resumed until all conditions which caused the limits specified in B.1. to be violated have been corrected.

3. The Producer shall provide the Board documentation that they have a contractual agreement with a qualified wastewater treatment "Operator" to oversee the wastewater treatment and disposal system(s). The Operator must be certified and licensed to operate a tertiary wastewater treatment system as defined under the State Board's Operator Certification Program.

C. Storage Pond Specifications

1. The Producer's recycled water storage pond shall be lined with a concrete, or equivalent, liner with sufficient impermeability to prevent infiltration to groundwater.

2. Recycled storage pond(s) shall be fenced to preclude unauthorized public access

3. Wastewater grab samples within one foot of the surface of the storage ponds shall meet the following quality limits at all times:

a. Dissolved Oxygen	1.0 mg/l minimum
b. pH	6.5, minimum; 9.0, maximum

4. A minimum freeboard of 24 inches shall be maintained in the recycled water storage pond(s) at all times.

5. The recycled water storage pond shall be protected from erosion, washout, and flooding from the maximum flood having a predicted frequency of once in 100 years.

6. Storage Pond Aquatic Plant Control

   The Board expects the Producer to operate and maintain the recycled water storage pond without chemical treatment (i.e., herbicides and algaecides) and to implement all feasible measures prior to using chemical treatment. If chemical treatment is proposed by the Producer for aquatic plant control, then such treatment shall be approved in writing by the Board's Executive Officer.

D. Recycled Water Use Specifications

1. Recycled water will not be provided to any unit intended for human habitation, for any internal use. Recycled water irrigation areas will be managed and maintained in accordance with sound irrigation practices to minimize any reasonable avoidable loss of recycled water from the irrigated areas. These systems shall be monitored and maintained such that:

   a) Irrigation will be confined to recycled water use areas. Recycled will not be allowed to escape from the use area by airborne spray or subsurface flow except in minor amounts such as are associated with good irrigation practices.

   b) Spray, mist or runoff will not enter dwellings, designated outdoor eating areas, or food handling facilities.

   c) Drinking water fountains will be protected against contact with recycled water spray, mist or runoff.

2. The Producer shall adequately post signs informing the public that the liquid contained in the pond and recycled water is being used for irrigation throughout the site. The signs shall be posted at the corners of the storage pond. Signs will be posted in areas where the recycled water is accessible to the public, such as decorative fountains and where spray irrigation is conducted. In addition, a sign will be posted at the main entrance to the use area. These signs will be at least four inches high by eight inches wide, and include the following wording at a minimum: "RECYCLED WATER – DO NOT DRINK". Each sign will display an international "Do Not Drink" symbol. and in conspicuous locations in the landscape irrigation areas. The User must provide adequate means of notification to inform workers and the public that recycled water is being used for irrigation at the vineyard. The signs shall be of sufficient size and proper wording to be clearly read.

3. There shall be no irrigation of recycled water within 50 feet of any well used for domestic supply, unless it can be demonstrated that special circumstances justify lesser distances to be acceptable.

4. Due to the narrow street widths and utility corridors that exist on-site, the preferable ten foot separation between potable water and recycled water system pipelines may not be practically possible at all outdoor locations. Where possible, recycled water pipes will be installed at least ten feet horizontally from and one foot lower than the potable water pipes. Where a ten foot horizontal separation cannot be achieved, a minimum horizontal separation of four feet will be maintained. At locations where this horizontal separation is between four feet and ten feet, special pipe will be used, as defined in the DHS *Criteria for the Separation of Water Mains from Sanitary Sewers and Pipes Carrying Reclaimed Water*. In addition, at locations where the horizontal separation is between four feet and ten feet, recycled water pipes will be at least one foot below potable water pipes, and trench tape will be used in the potable water system trenches. Where recycled water pipes and potable water pipes cross, recycled water pipes will be installed at least one foot below potable water pipes. Carneros Inn will own all water, sewer, recycled water and

storm drain utilities. Carneros Partners' management will tightly manage its Carneros Inn facilities, and no alterations to utilities, building plumbing, or irrigation systems will be allowed without specific management approval. Operations and maintenance personnel involved with utilities, plumbing, and irrigation systems will be educated on the importance keeping the recycled and potable water systems strictly separated. The recycled pipelines shall be colored purple in accordance with Title 22 requirements.

5. The landscape and vineyard irrigation programs shall be managed to prevent ponding of water or other conditions which would provide a breeding area for mosquitoes or other vectors of health significance, and to prevent the creation of odors, slimes, or unsightly deposits.

6. **Recycled Water Irrigation Plan.**

   The Producer shall develop a **Recycled Water Irrigation Plan** prior to distribution of recycled water to the irrigation system. The Plan shall describe the landscape irrigation system, type of landscaping/flora to be maintained by the irrigation system, and operation and maintenance of the entire water reuse system.

E. Provisions

1. The Discharger shall comply with all sections of this Order immediately upon commencement of discharge.

2. The Discharger shall maintain a copy of this Order at the site so that it will be available at all times to personnel operating waste treatment and disposal facilities.

3. The Producer shall maintain in good working order and operate as efficiently as possible any treatment, disposal, and monitoring facility or control system installed by the Producer to achieve compliance with these waste discharge requirements.

4. The Discharger shall comply with the attached self-monitoring program (SMP) (Attachment 5) as adopted by the Board and as may be amended by the Executive Officer. The User is responsible for submitting on-site observation reports and use data to the Producer, who will compile and file the necessary SMP reports to the Regional Board.

5. Recycled Water Storage Pond: In reviewing compliance with Specification C.4, the Board will take special note of the difficulties encountered in achieving compliance during entire wet weather seasons having a rainfall reoccurrence interval of greater than once in ten years.

6. The Producer shall appoint a "Recycled Water Supervisor" to be responsible for repairing, maintaining, and operating the recycled water system according to the conditions in this Order, in order to prevent potential public health hazards. The Recycled Water Supervisor shall have sufficient training in wastewater treatment to oversee the daily operation of recycled water system and to handle minor emergencies. However, if major problems occur he will be responsible for contacting a licensed "Operator" for system corrections.

7. The User shall be responsible for repairing, maintaining, and operating the recycled water irrigation system according to the conditions in this Order, in order to prevent potential public health hazards.

8. Inspection, supervision, and employee training should be provided by the Discharger to assure proper operation of the recycled water facilities and to provide proper worker protection. A complete Record of inspections and training should be maintained by the Discharger.

9. The Producer shall implement a program to regularly review and evaluate its wastewater collection, treatment and disposal facilities in order to ensure that all facilities are adequately staffed, supervised, operated, maintained, and repaired as necessary, in order to provide adequate and reliable treatment, and disposal of all wastewater. A **Treatment Facilities Evaluation Program** report discussing the status of this evaluation program, including any recommended or planned actions, shall be submitted to the Board by **April 30** of each year.

10. The Producer shall submit to the Board an **Operational and Maintenance Manual** for the entire wastewater treatment and disposal facilities prior to startup of the wastewater treatment facility.

11. The Producer shall provide employee training to ensure proper operation of wastewater treatment and disposal facilities. All personnel responsible for operation and maintenance of the wastewater treatment and disposal facilities shall be provided with a copy of the Operation and Maintenance Manual.

12. In the event the Discharger is unable to comply with any of the conditions of the order due to:

    a. Breakdown of wastewater treatment/transport equipment;
    b. Accidents caused by human error or negligence; or
    c. Other causes such as acts of nature,

    The Discharger shall notify the Board by telephone as soon as the Discharger or their agents have knowledge of the incident. Written confirmation of this notification shall be submitted within two weeks of the telephone notification. The written notification shall include pertinent information explaining reasons for the non-compliance and shall indicate what steps were taken to correct the problem and the dates thereof, and what steps are being taken to prevent the problem from recurring.

13. Discharger shall permit the Regional Board or its authorized representative in accordance with California Water Code Section 13267(c):

    a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

    b. Access to and copy of, at reasonable times, any records required to be kept under the terms and conditions of this Order;

    c. Inspection, at reasonable times, of any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; or

    d. To photograph, sample or monitor, at reasonable times, for the purpose of assuring compliance with this Order.

14. In the event of any change in control or ownership of the land or the waste discharge facilities presently owned or controlled by the Discharger, they shall notify the succeeding owner or operator of the existence of this Order by a letter, a copy of which shall be forwarded to the Board.

15. This Board will review this Order periodically and may revise the requirements as necessary to comply with changing State and Federal laws, regulations, policies, or guidelines; changes in this Regional Board's Basin Plan; or changes in the discharge characteristics.

16. After notice and opportunity for a hearing, this Order may be terminated or modified for cause including, but not limited to:

    a. Violation of any term or condition contained in this Order;
    b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts; .
    c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized reuse; or
    d. Endangerment to public health or environment that can only be regulated to acceptable levels by Order modifications or termination.

17. The Water Reuse Requirements prescribed by this Order supercede requirements previously prescribed by the Board's Orders No. 92-051 and No. 99-085. Orders No. 92-051 and No. 99-085 are no longer applicable and are hereby rescinded.

I, Loretta K. Barsamian, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 22, 2001.

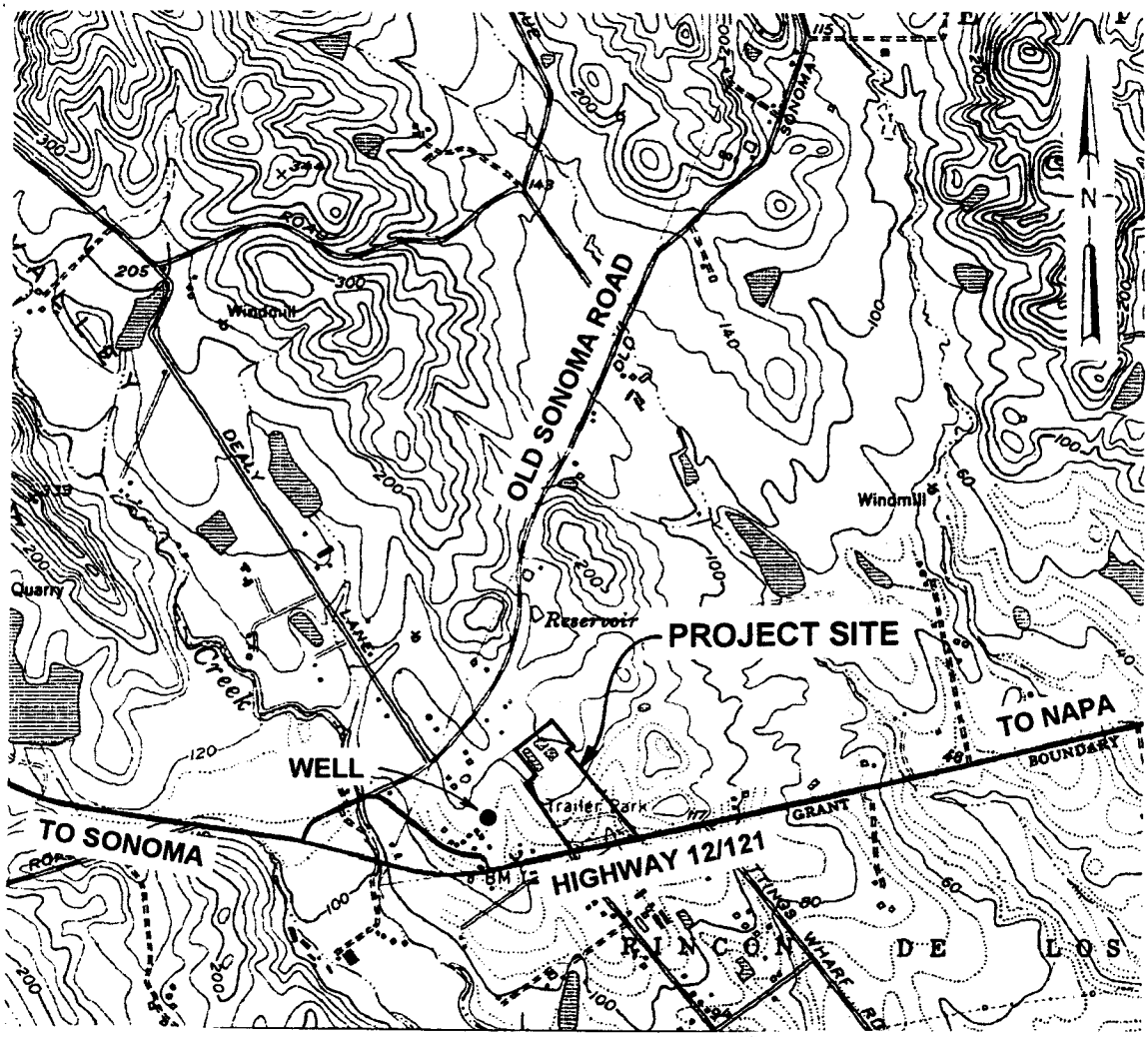
Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

Attachments:
1. Location Map, Figure 1
2. Carneros Inn Site Map, Figure 2
3. Wastewater Treatment Flow Schematic, Figure 3
4. Water Balance, Table 2
5. Self-Monitoring Program

File No. 2139.3030
Originator: RJC

ATTACHMENT 1

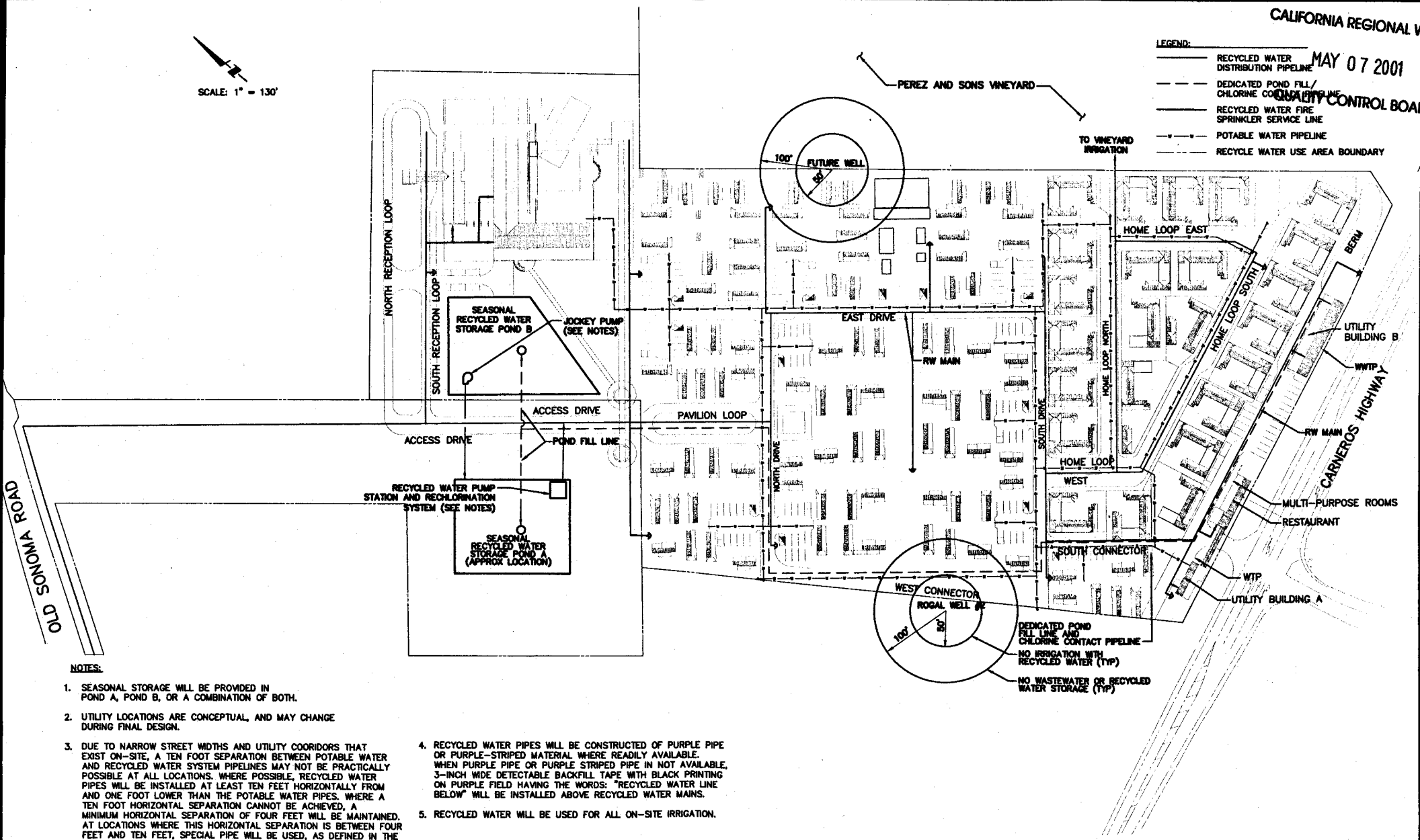


LOCATION MAP

1" = 2000'

FIGURE 1

ATTACHMENT 2



NOTES:

1. SEASONAL STORAGE WILL BE PROVIDED IN POND A, POND B, OR A COMBINATION OF BOTH.
2. UTILITY LOCATIONS ARE CONCEPTUAL, AND MAY CHANGE DURING FINAL DESIGN.
3. DUE TO NARROW STREET WIDTHS AND UTILITY COORIDORS THAT EXIST ON-SITE, A TEN FOOT SEPARATION BETWEEN POTABLE WATER AND RECYCLED WATER SYSTEM PIPELINES MAY NOT BE PRACTICALLY POSSIBLE AT ALL LOCATIONS. WHERE POSSIBLE, RECYCLED WATER PIPES WILL BE INSTALLED AT LEAST TEN FEET HORIZONTALLY FROM AND ONE FOOT LOWER THAN THE POTABLE WATER PIPES. WHERE A TEN FOOT HORIZONTAL SEPARATION CANNOT BE ACHIEVED, A MINIMUM HORIZONTAL SEPARATION OF FOUR FEET WILL BE MAINTAINED. AT LOCATIONS WHERE THIS HORIZONTAL SEPARATION IS BETWEEN FOUR FEET AND TEN FEET, SPECIAL PIPE WILL BE USED, AS DEFINED IN THE DHS CRITERIA FOR THE SEPARATION OR WATER MAINS FROM SANITARY SEWERS AND PIPES CARRYING RECLAIMED WATER. IN ADDITION, AT LOCATIONS WHERE HORIZONTAL SEPARATION IS BETWEEN FOUR AND TEN FEET, RECYCLED WATER PIPES WILL BE AT LEAST ON FOOT LOWER THAN THE POTABLE WATER PIPES, AND TRENCH TAPE WILL BE USED IN POTABLE WATER SYSTEM TRENCHES. WHERE RECYCLED WATER PIPES AND POTABLE WATER PIPES CROSS, RECYCLED WATER PIPES WILL BE INSTALLED AT LEAST ONE FOOT BELOW POTABLE WATER PIPES.
4. RECYCLED WATER PIPES WILL BE CONSTRUCTED OF PURPLE PIPE OR PURPLE-STRIPED MATERIAL WHERE READILY AVAILABLE. WHEN PURPLE PIPE OR PURPLE STRIPED PIPE IN NOT AVAILABLE, 3-INCH WIDE DETECTABLE BACKFILL TAPE WITH BLACK PRINTING ON PURPLE FIELD HAVING THE WORDS: "RECYCLED WATER LINE BELOW" WILL BE INSTALLED ABOVE RECYCLED WATER MAINS.
5. RECYCLED WATER WILL BE USED FOR ALL ON-SITE IRRIGATION.

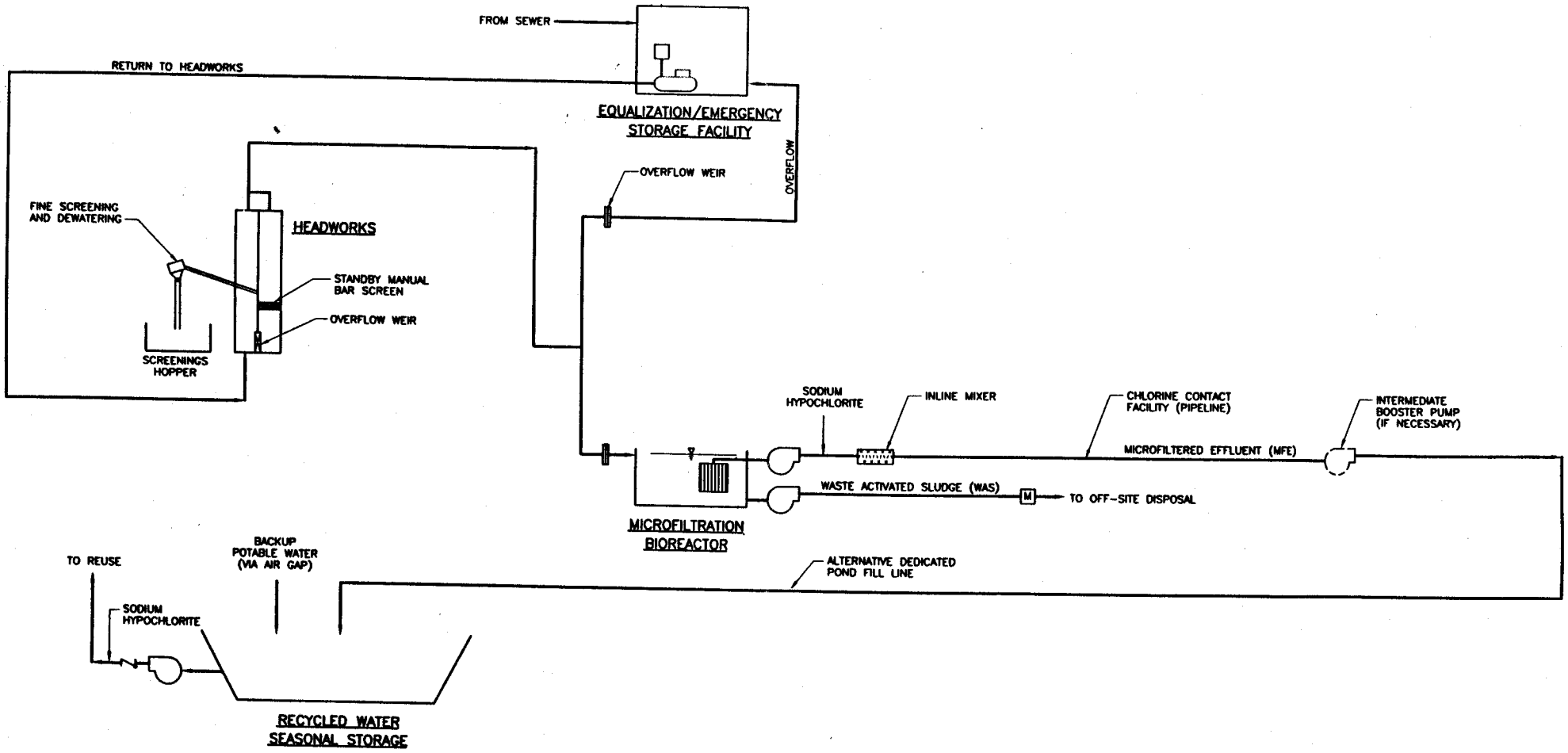
FIGURE 2
CARNEROS INN
RECYCLED WATER
SYSTEM LAYOUT

ATTACHMENT 3

ATTACHMENT 3

Figure 3
Wastewater Treatment Flow Schematic

(HydroScience Engineers, Inc)



ATTACHMENT 4

Table 2
Water Balance

(HydroScience Engineers, Inc)

FLOW GENERATION

Peak Occupancy Flow:	20,000 gpd
Average Occupancy:	70.00%
Average Occupancy Flow:	14,000 gpd
Average Annual I/I:	700 gpd

DATA

Off-site Pond Surface Area: (measured):	40,000 Ft^2
Nominal Off-site Pond Depth (calc.):	9.5 Ft
Required Storage:	8.7 acre-feet
Number Acres Irrigated:	5.9 acres
Pond Evaporation Rate:	0.7 x pan evaporation rate
Percolation Rate:	5.12E-08 in/sec
Annual Precipitation:	34.26 in. (10 year occurrence interval)

	Input Parameters					Production	Demand	Supply			Storage						
Month	Precip. (in)	Pan Evaporation[a] (in)	Average Occupancy (%)	Domestic WW (gpd)	I/I (gpd)	Total RW Production (AF)	Total Irrigation Demand (AF)	Supplied From WWTP (AF)	Supplied From Reservoir (AF)	Supplied by Other Sources (AF)	In From WWTP (+AF)	In From Rainfall (+AF)	Out To Irrigation (-AF)	Out To Evaporation (-AF)	Out To Percolation (-AF)	Net In/Out (AF)	Reservoir Accumulation (AF)
Nov	2.74	1.6	70.0%	14,000	672	1.4	0.0	0.0	0.0	0.0	1.3	0.2	0.0	-0.1	0.0	1.4	2.1
Dec	6.92	1.0	44.4%	8,880	1,697	1.0	0.0	0.0	0.0	0.0	1.0	0.5	0.0	-0.1	0.0	1.5	3.6
Jan	7.26	1.2	47.8%	9,560	1,780	1.1	0.0	0.0	0.0	0.0	1.1	0.6	0.0	-0.1	0.0	1.5	5.1
Feb	6.78	1.6	59.3%	11,860	1,662	1.2	0.0	0.0	0.0	0.0	1.1	0.5	0.0	-0.1	0.0	1.6	6.7
Mar	5.07	3.1	62.3%	12,460	1,243	1.3	0.0	0.0	0.0	0.0	1.3	0.4	0.0	-0.2	0.0	1.5	8.2
Apr	2.88	4.4	67.9%	13,580	706	1.3	0.8	0.8	0.0	0.0	0.6	0.2	0.0	-0.2	0.0	0.5	8.7
May	0.79	6.4	73.7%	14,740	194	1.4	2.4	1.4	0.9	0.0	0.0	0.1	-0.9	-0.3	0.0	-1.2	7.5
Jun	0.21	7.6	78.3%	15,660	51	1.4	3.1	1.4	1.7	0.0	0.0	0.0	-1.7	-0.4	0.0	-2.1	5.4
Jul	0.03	9.1	79.6%	15,920	7	1.5	3.8	1.5	2.3	0.0	0.0	0.0	-2.3	-0.5	0.0	-2.8	2.7
Aug	0.07	8.0	85.9%	17,180	17	1.6	3.2	1.6	1.6	0.0	0.0	0.0	-1.6	-0.4	0.0	-2.0	0.6
Sep	0.31	6.0	85.2%	17,040	76	1.6	2.3	1.6	0.6	0.1	0.0	0.0	-0.6	-0.3	0.0	-0.6	0.0
Oct	1.20	3.6	85.6%	17,120	294	1.7	1.1	1.1	0.0	0.0	0.6	0.1	0.0	0.0	0.0	0.7	0.7
Average	2.86	4.5	70.0%	14,000	700		1.4										
Total	34.26	53.6				16.5	16.7	9.5	7.1	0.1	7.0	2.6	-7.1	-2.7	-0.1	0.0	

[a] Class "A" pan evaporation rates for North Coast Interior Valleys, (California DWR Bulletin 113-3). Used for estimation of evaporation losses from ponds.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

for

Carneros Inn & Perez & Sons Vineyard
Napa County

ORDER 01-051

May 2001

ORDER NO. 01-051

1. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code.

The principal purposes of a monitoring program by a waste discharger, also referred to as a self-monitoring program, are:

1. To document compliance with wastewater requirements and prohibitions established by this Regional Board; and

2. To facilitate self-policing by the discharger in the prevention and abatement of pollution arising from wastewater treatment and disposal.

II. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to Code of Federal Regulations Title 40, Section 136 (40 CFR S136), or other methods approved and specified by the Executive Officer of this Regional Board.

Wastewater analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DHS), or a laboratory waived by the Executive Officer from obtaining a DHS certification for these analyses.

The director of the laboratory whose name appears on the certification, or his/her laboratory supervisor who is directly responsible for the analytical work performed shall supervise all analytical work including appropriate quality assurance/quality control procedures in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

III. DEFINITION OF TERMS

A. RESPONSIBLE ENTITIES

1. Producer: Carneros Inn is the recycled water producer. The producer is responsible for the quality of the recycled water released for distribution and for the operation and maintenance of the recycled water use facilities on site.

2. User: L. Perez and Sons is the recycled water User. The User is responsible for operation and maintenance of the recycled water use facilities under its control, and for controlled use of the recycled water for drip irrigation of vineyards.

3. Discharger: The Producer and User are collectively referred to as the Discharger. The Discharger is responsible for compliance with this monitoring program. The Producer is responsible for submittal of the required monitoring reports to the Regional Board.

B. SAMPLES

1. A grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only conditions existant at the time of sample collection. Grab samples are used primarily in determining compliance with daily or instantaneous maximum limits.

2. A flow sample is the accurate measurement of the average flow volume over a given period of time, using a properly calibrated and maintained flow measuring device. Flows calculated from properly maintained pump useage records for accurately calibrated pump are acceptable.

3. Freeboard is the vertical distance between the water surface and the lowest elevation of the top of the water containment structure (perimeter dike, levee, berm, etc.)

C. STANDARD OBSERVATIONS

1. Recycled Water Storage Pond Area

   (a) Measure and report the freeboard at the lowest elevation point of the perimeter levee.

   (b) Evidence of seepage from the pond.

   (c) Nuisance odor from pond: If present, indicate apparent cause, characterization, direction of travel, and any public use area or off-site facility affected.

2. Recycled Water Use Area

   (a) Evidence of recycled water escaping the recycled water use area through surface runoff or airborne spray (show affected area on a sketch)

   (b) Nuisance odor from pond: If present, indicate apparent cause, characterization, direction of travel, and any public use area or off-site facility affected.

   (c) Evidence of prolonged ponding of recycled water, or of mosquitoes breeding within the use area due to ponding.

IV. DESCRIPTION OF SAMPLING AND OBSERVATIONS

NOTE: A sketch showing locations of all stations described below shall accompany the first monitoring report, and subsequent reports when locations are added or changed, or a violation is reported.

STATION	DESCRIPTION

A. WASTEWATER TREATMENT SYSTEM (PRODUCER)

1. Wastewater Treatment Plant Elfluent

A-1	At a point in the wastewater system following the tertiary treatment system, following disinfection, and prior to entering the storage pond, at which all waste tributary to the pond is present.

2. **Recycled Storage Pond**

PW-1	In the storage pond, about one foot below the water surface, and no less than two feet from the bank, representative of the pond water.

3. **Recycled Storage Pond Perimeter**

PP-1 thru PP-4	Points located at the mid-points of the perimeter levees around the pond system. (A sketch showing the location of these stations shall accompany each SMP quarterly report).

B. RECYCLED WATER POND EFFLUENT (PRODUCER)

E-1	In the effluent from the storage pond, following disinfection, representative of the recycled water distributed to the water reuse areas.

C. RECYCLED WATER USE AREA (DISCHARGER)

RP-1 thru RP-'n' (Producer)	Located along the at about 500 foot intervals around the perimeter of the recycled water use area.
RU-1 thru RU-'n' the (User)	Located along the at about 1000 foot intervals around the perimeter of recycled water use area.

V. SCHEDULE OF SAMPLING, ANALYSES AND OBSERVATIONS

Sampling, analyses and observations shall be conducted according to the schedule given in Table 1 and Table 1 Footnotes (SMP Attachment A)

VI. REPORTS TO BE FILED WITH THE REGIONAL BOARD

A. Self-Monitoring Reports (SMR)

Written reports shall be filed for each calendar month. Reports shall be submitted to this Regional Board's office no later than the fifteenth day of the following month. Each SMR shall include the following:

1. Letter of Transmittal, including:

   a. Discharger's name, address, phone number & contact person;
   b. The monitoring period being reported, by month and year;
   c. The name of the responsible Regional Board staff member;
   d. Discussion of all requirement violations found during the monitoring period, including causes and corrective actions taken or planned in order to prevent future violations;
   e. Discussion of any special events pertinent to maintaining compliance with water reuse requirements, such as equipment repair or replacement, or operational changes;
   f. Signatory statement by the Discharger or authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete

2. Results of Analyses and Observations, including:

   a. Tabulations of the results from all required sampling and analyses specified in Table 1 and its Footnotes (SMP Attachment A) by date, sample type and station.

   b. Wastewater Pond Report

   c. Recycled water Irrigation Report

B. Report of Permit Violation

In event the Discharger violates, or threatens to violate the conditions of water reuse requirements due to:

1. Maintenance work, power failure, or breakdown of wastewater treatment or transport equipment;
2. Accidents caused by human error or negligence; or
3. Other causes such as acts of nature,

The discharger shall:

a. Notify the Regional Board office by telephone, as soon as the Discharger, or agent, has knowledge of the event; and

b. Submit a written report is within two weeks of the event. The written report shall include pertinent information explaining reasons for the non-compliance actions taken to correct the problem and dates thereof, and actions being taken to prevent the problems from recurring.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing Self-monitoring Program is effective on the date shown below and may be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the District.

Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

Effective Date: May 22, 2001

SMP Attachments

A. Table 1: Schedule for Sampling, Analyses and Observations

CARNEROS INN and L. PEREZ & SONS VINEYARD
WATER REUSE REQUIREMENTS
Self-Monitoring Program, Attachment A

TABLE 1

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station		A-1		E-1 (1)		PW	PP (1)	RP/RU (1)
Type of Sample Parameter,	Units	**C**	**G**	**C**	**G**	**G**	**Ob**	**Ob**
Flow Rate	(mgd)	X		X				
BOD_5	(mg/)		W					
Tot. Susp. Solids	(mg/L)		W					
Total Coliform	(MPN/100ml)		2/W		2/W			
Turbidity	(NTU)	X						
pH	(units)		D			M		
D.O.	(mg/L)					W		
Standard Observations							W	W (2)

LEGEND FOR TABLE 1:

Types of Samples

G = grab sample
C= Continuously Measured
Ob = Observations

Frequency of Sampling

D	Once each day
W	Once each week
2/W	Two days per week
M	Once each month
X	Continuously Monitored

Type of Stations

A = Treatment Plant Influent
E = Effluent from Recycled Water Storage Pond
PW = Recycled Water Pond analyses
PP = Recycled Water Pond Perimeter Observations
RP = (Producer)/RU(User) = Irrigation Site Observations

Notes:

(1) Measurements and analyses required only when pond effluent is discharged to the irrigation sites.

The Recycled Water Use Report shall be completed by the User for each month when recycled water is used for vineyard irrigation. The completed report shall be as part of the required SMP.

California Regional Water Quality Control Board
San Francisco Bay Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov
1515 Clay Street, Suite 1400, Oakland, California 94612
Phone (510) 622-2300 • FAX (510) 622-2460

Gray Davis
Governor

CERTIFIED MAIL No. 70993220000146714072

May 23, 2001
File No. 2139.3030(RJC)

Mr. Keith Rogal
Carneros Partners
Five Third St., Ste 700
San Francisco, CA 94103

Dear Mr. Rogal:

Subject: Carneros Inn: Final Water Reuse Order No. 01-051

Enclosed is the certified copy of the final Order No. 01-051, adopted by the Regional Board on May 22, 2001.

If you have any questions, please contact Richard Condit at 510-622-2338.

Sincerely,

Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

Attachment